"Large Quantities Had To Be Marked For Disposal": An Artifact Inventory of Shiner's Trench, Fort Frederica National Monument

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Introduction

This report presents the results of inventory and analysis of artifacts associated with Shiner's Trench, Fort Frederica National Monument, St. Simons Island, Georgia. The inventory and analysis was conducted by two students enrolled in an independent studies laboratory course during the spring of 2000 (170 hours) and two student-interns (480 hours) during the following summer. The internships were part of a WASO Archaeology and Ethnography Program. About 20 hours of data input student assistance also occurred during the fall of 2000. The analysis was performed at the Jeffrey L. Brown Institute of Archaeology laboratory at the University of Tennessee at Chattanooga (UTC), under the supervision of Dr. Nicholas Honerkamp, Director of the Institute and Principal Investigator (PI) for the project. The UTC researchers worked closely with the National Park Service's Southeastern Archaeological Center (SEAC) and the staff at Fort Frederica during the project. The primary goal of the research was to (1) generate an inventory of artifacts from the trench, particularly ceramic remains; (2) evaluate the condition of the inventoried collections; and (3) make recommendations concerning the future disposition of the artifacts. A total of approximately 670 person-hours was devoted to the inventory tasks, excluding supervision and report preparation by the PI.

Fort Frederica and the Genesis of Shiner's Trench

"Shiner's Trench" is the designation given to a deposit of "excess" artifacts derived from several years of excavations at Frederica during the 1950s and 1960s by National Park Service archaeologists. Much of the background information in this section is taken from Honerkamp 1998.

The town and fort of Frederica, located on St. Simons Island, Georgia, was established in 1736 as a defensive outpost between Spanish Florida and important British settlements and plantations in Georgia and South Carolina. With a regiment of soldiers, along with several dozen families from which the civilian militia was derived, the small fortified settlement was too large for the Spanish forces based in St. Augustine to ignore if they were to attack Savannah, but small enough for England to sacrifice in the defense of her more important holdings. Although the town was envisioned to be a permanent self-sustaining settlement populated by the mother country's "deserving poor," the urban-derived settlers found frontier life arduous, and a large number transplanted themselves to the bright lights of Savannah or Charleston. Those who stayed depended largely on governmental handouts for their existence, or else served the thirsty needs of the 630-man regiment. The death knell of this military-based economy was sounded when a remarkably incompetent Spanish invasion of the island was repulsed in 1742. The British regiment was disbanded in 1749, and the few residents who remained by that late date soon departed. Much of the town's surviving structures burned in 1758 because apparently no one was there to put the fire out.

Over the next two and a half centuries the site was sporadically occupied and farmed, and an orphanage was established there at the turn of this century. The area of the town and fort became a national monument in 1945, and archaeological explorations of the largely undisturbed fort and defensive earthworks began in the late 1940s under the supervision of Charles H. Fairbanks, the monument's first superintendent. His pioneering work aided greatly in the location, interpretation, and restoration of several key military elements (Fairbanks 1953), and in collaboration with Margaret Davis Cate, he was able to establish the original layout of the

civilian sections of the town (Fairbanks 1956). Following Fairbanks' departure, over 40 excavations were undertaken utilizing an approach that emphasized extensive trenching for substantial foundations (Deagan 1975). If none were noted, the site was considered to be "uninteresting," even if numerous postholes for earth-fast structures had been uncovered. Of course, for the time and place, this approach was not uncommon at historic sites.

Even without screening, the trenching technique used at Frederica generated prodigious quantities of artifacts. But without a problem-oriented approach to the excavations, any pieces that were not deemed "museum quality" or otherwise "interesting" were automatically considered to be "superfluous" or "redundant." Adding to the interpretative malaise at the National Monument was the fact that one-to-one connections between site features and artifacts and documented colonial occupants didn't seem to make much sense. That is because many of the documented lot identifications were incorrect until historian J.T. Scott provided new information that corrected the lot designations (1985). Since most of the artifact assemblages did not appear to "match" the assumed (and incorrect) site occupants, they were considered to be ambiguous and therefor uninteresting. Thus, a serious redundant-artifact storage problem emerged at Frederica after a decade of sustained excavations. From a series of extraordinary NPS memos written in 1966, it has been possible to reconstruct what happened to a substantial number of these artifacts: many were buried in an artifact disposal trench.

The flurry of memos about the trench were inspired by an innocent request from T. M. Hamilton. Hamilton was researching his now-classic treatise on muskets (1976) and had apparently asked the Supervisor if it was possible to examine the contents of a large collection of colonial artifacts that had been buried in a trench at Fort Frederica by NPS personnel from 1959 to 1964. Hamilton evidently hoped to discover gun parts in the trench that had been overlooked and inadvertently included with all the "uninteresting" pieces. That trench now bears the name of its maker, Joel Shiner. One memo clearly states that Shiner made a "unilateral decision" to create the trench and fill it with what was described as "duplicate artifacts; pipe stems, nails, pins, etc.... Most of it was small fragments or completely uninteresting trash." Prior to their burial, the artifacts were "culled" so as to remove the "passable and interesting specimens ahead of time" (3-11-66; on file at Fort Frederica National Monument).

Another memo (3-22-66) is more specific about the disposal process at Fort Frederica and elsewhere. Jackson Moore carried out excavations at the fort for a number of years, although he states he had nothing to do with Shiner's Trench. He explains that storage space was lacking at the Park, so "large quantities had to be marked for disposal." He goes on to describe the buried assemblage:

> These quantities, as I recall, consisted of <u>duplications</u> as well as bulk items. "Bulk" of course, meant nails, bolts, bottle bases, body fragments, and necks, flat glass, body sherds of all kinds (unique sherds were kept, even though unrepresentative). I don't recall whether there was any category that was kept altogether, so presume that some mainsprings, frizzens, etc. might have been buried. (emphasis in the original)

As will be seen later in this report, Moore's words were to prove prophetic. He also stated that during his tenure at Frederica he simply piled excess artifacts in the vicinity of the trench rather than burying them, and that several NPS personnel retrieved "valuable" artifacts from the pile. He also indicates that it was a common practice at National Parks to bury surplus artifacts, particularly in the northeast region.

Hamilton's request to inspect the buried artifacts apparently struck a sensitive nerve with the Park Service. In October of 1966 Fort Frederica's Superintendent W. H. Glover and the Park Historian Robert R. Madden directed a one-week excavation of the trench using maintenance personnel for the labor. In his letter to Hamilton (10-12-66), Glover reported the following:

> The excavation was carefully made. Each shovel of dirt was sifted through a wire screen. Every scrap of material was taken from the trench, and each item was examined individually. At least 95% of the artifacts were readily recognizable as pottery and bottle shards, projectile fragments [hollow shot?], and building materials (nails, hinges, bolts, etc.). The remainder included such items as pipe fragments, bones, and other non-metalic [sic] objects. Little copper or brass was found. There were, however, a few unidentifiable metal artifacts, and we are sending these to you under separate cover...Again, let me assure you that the forwarded artifacts are the only items recovered from the trench that could possibly be gun parts.

A letter by Madden (10-16-66) reiterated Glover's assessment of the newly-excavated collection, adding that "...by and large the whole thing was a disappointment... It's difficult for an old farm boy not to recognize hinges, nails, bolts, etc., and that's what most of the metal artifacts were." This indicates that Shiner's Trench artifacts had already been excavated and redeposited back into the trench by 1966.

Finally, in November of 1966, Hamilton sent the culled metal fragments back to Frederica with a letter identifying what he had found, consisting only of a pistol sideplate, some candlestick fragments, and some 19th century lamp and garden tool items (11-27-66). The failure of Madden and Glover to correctly distinguish gun parts from candlesticks and garden tools could not have been reassuring to Hamilton.

What was not established from the documentary materials relating to the creation of Shiner's Trench was its size and location. An earlier memo, authored by the Superintendent in 1959, gives the dimensions of the trench as 2 by 30 feet and 3 feet deep; another memo (3-11-66) mentions a trench 10 feet long, "just to the rear of the old archaeology storage bldg."; Moore's note (3-22-66) references a long deep trench in front of a septic tank, while a third declares that the trench contains "about 100 cubic feet of discarded material" (8-10-66). Still another states that the trench is "two feet wide, three feet deep, and 18 feet long, marked by a 4" X 4" concrete post four feet high at each end" (4-4-66). This suggests that either there is more than one trench, or, more likely in view of recent archaeological testing by SEAC archaeologists, the original 1959 trench was expanded to its present size.

In 1994, when Frederica's Chief Ranger Ray Morris came across records about the trench, a single concrete post was present in the presumed vicinity of the former archaeology storage shed. Test pits dug by archaeologists from SEAC confirmed the existence of a solid mass of buried colonial and 19th century artifacts, some with accession numbers still present on them, but the trench was determined to be at least five feet wide and extending 50 feet to the east of the marker. The archaeologists were unable to reach the bottom of the trench due to the density of artifacts. Clearly, though, the trench was quite large, dwarfing contemporary descriptions of the trench dimensions. Perhaps Moore's pile of artifacts were eventually reburied with the original trench material after the 1966 excavation.

What was also clear was that the trench contained a substantial quantity of diverse artifacts from over 40 sites at Frederica, all unprovenienced, with the "interesting" and "unusual" pieces removed but not documented.

From Sow's Ear to Silk Purse

The transformation of this archaeological embarrassment into a positive educational tool is without precedent. Once SEAC had established the presence of the feature, and that its archaeological contents apparently would arguably not qualify for a Section 106 permit due to its redeposited context, the possible educational value of the trench began to be explored, as part of an archaeology addition to the Glynn County School System. A wide variety of partners made direct and in-kind contributions to the archaeological initiative, and a lead grant was awarded by the Board of the National Park Foundation, through the "Parks As Classrooms Program", to implement the archaeology program. A highly unusual level of support came from the Glynn County School System's designation of a full time teaching position to serve as the project's Archaeology Coordinator.

The successful fundraising efforts resulted in the acquisition of excavation equipment and supplies, the equipping of what has become known as the Fort Frederica Archaeological Center's laboratory at Oglethorpe Point Elementary School, and financial support for the ambitious teacher-training program, with a goal of training every fourth-grade teacher in the county school system through participation in a one-week of intensive field and laboratory course. As of this writing, a total of 177 fourth grade classes and 12 fifth grade classes, composed of nearly 4750 students, have participated in the excavation of Shiner's Trench; approximately 250 students from private schools have also been involved. Over 1000 students are now expected to participate every year. Prior to the fieldwork, an extensive archaeology unit is covered in the classroom. Excavation is under the supervision of the teachers, with the Glynn County Schools Archaeology Coordinator on site at all times. In addition, NPS personnel are often present, particularly the Educational Specialist, and during the early years of the project student and faculty archaeologists from Armstrong Atlantic University sometimes provided professional expertise to the excavations. The field day is followed by a trip to the Archaeological Center for cleaning and classification. An extensive collection of comparative artifacts are kept in the lab to assist in identification. Students write a site report incorporating the field and laboratory activities as part of their assignment, and are also encouraged to build interpretive exhibits to display the artifacts they identify. They end the unit by discussing issues dealing with archaeological ethics, conservation, and preservation.

By any standard the archaeology program has been a huge success. The Archaeology Education Program has received extensive local, regional, and even national media coverage. The program has also received two prestigious awards: Georgia's Partners-in-Education Award in 1996 and the National Park Service Freeman Tilden Award in 1995. But perhaps the most important measure of success can be found in the descriptions of the program that come from teachers, parents, and the students. From the beginning, those descriptions have been glowing. Many teachers have noted how the course integrates several subject areas at once, and the enthusiasm of the students is extremely high.

A unique aspect of this program is that it is designed to continue indefinitely, because the archaeological record is considered in this case to be a renewable resource (but see caveats in the concluding section). The excavation of Shiner's Trench was completed to sterile by the students

and teachers during the 1996/97 school year. At the end of the summer the artifacts were quantified by volume and returned for reburial. In liters, the estimated quantities of artifacts by material was: glass, 210; metal, 130 (including several gun parts that were overlooked in 1964); ceramics, 70 ; brick and stone fragments, 50; flint fragments (including several whole and partial gunflints), 8; oyster shell, bone, and wood, 6; and 5 liters of pipe stems. The artifacts were evenly distributed vertically and horizontally in the trench for the next round of excavations. To date, the artifacts have been reburied four times, with the most recent reburial occurring during August of 2000.

In addition to reburial of artifacts in Shiner's Trench, a small quantity of artifacts was also reburied in two archaeological "features" that were constructed in August of 1997 by Noelle Conrad and the author. These features, which are located southwest of the Trench, were created for future student excavation. The southernmost feature consists of a rectangular pit measuring approximately 6 by 8 feet and about 2 feet deep (the shallow depth of the pseudo-features was predicated on safety issues, not historical accuracy). A thin layer of white construction sand was spread on the floor of the unit to indicate the bottom of the pit. Within this pit a dry-laid, rectangular brick feature was built. Meant to resemble a 19th century privy, at least four types of bricks were used. The interior dimensions of this feature are 64 inches north-south by 45 inches east-west, and the uppermost course of bricks is 19 inches high. The walls of the brick enclosure are of varying heights, to suggest that it had been robbed of some of its courses. Artifacts were deposited in the fill inside and outside the brick feature, with the hope that *terminus post quem* dates could be established for the outer versus the interior pit fills. All the dateable artifacts are associated with the late 18th and early 19th centuries. To ensure that it will be located in the future, vertical PVC pipes were placed in the corners of the pit and extend about two feet above surface.

To the north of the privy a second pit was dug approximately two feet below surface. Measuring 76 inches north-south and 60 inches east-west, the bottom of this pit also contains a thin layer of white construction sand. Within the pit, at its approximate center, a simulated dry-laid brick well was built. Both the square construction pit and the 35-inch interior diameter were based on extant colonial wells at Frederica. Only colonial-era hand made bricks and brick bats were used for this feature; all bricks for both features were derived from stockpiles within and adjacent to the Trench enclosure. A small number of colonial period artifacts were scattered on the floor of the pit exterior to the well. The well itself was backfilled with a variety of colonial artifacts scattered throughout the fill. A single sherd of creamware, with a beginning manufacturing date of 1762, is the latest artifact included in the well shaft. A vertical gray PVC pipe extends above surface from the center of the well shaft. All 349 artifacts used to salt these simulated features are listed in Appendix A. They are not included in the Shiner's Trench tables.

The Missing Inventory

As Honerkamp (1998) has noted, the success of this unique educational effort is not without its costs. The most obvious is that the artifacts in the trench are *not* invincible, despite a tacit assumption that they can be recycled forever. Fragile items of glass and bone will become more fragmented with every trench excavation and reburial, and oxidation of metal items is also obviously accelerated. Thus, a portion of the artifact assemblage is in a very real sense being sacrificed for this program. Even unprovenienced artifacts could have scientific value in the future as historical archaeologists develop improved analytical methods and techniques that

cannot even be envisioned now. Another serious drawback is imbedded in an otherwise positive characteristic of the artifact assemblage: its huge size. Although the original proposal for the Parks as Classrooms Program emphasized the creation of an artifact inventory as an added benefit of this project, the proposal failed to specify who would generate the inventory or the source of funding for such an effort. Consequently, no inventory was forthcoming. Even the artifacts from SEAC's own 1994 testing remained unprocessed until the present study. Hence, the same factors that led to the creation of Shiner's Trench over three decades ago still held sway in 1994. Recognizing that there was no effective inventory control of what was being excavated, John Jameson of SEAC initiated and found funding for the current preliminary analysis effort by UTC.

Research Goals

The primary purpose of the analysis effort by UTC was to create a basic inventory of artifacts associated with Shiner's Trench. But decisions concerning the extent to which certain variables were noted and recorded are driven by the kinds of questions being asked by the researcher. Hence the number of research questions explored was commensurate with funding limits, as explained below. Those that were addressed, and that resulted in the coding of particular variables included: (1) how much of the artifact assemblage can be associated with the colonial occupation versus the postcolonial presence at Frederica; (2) what are the frequency relationships between refined versus utilitarian ceramic artifacts; (3) what are the impacts of successive excavation and reburial on the artifact assemblage; and (4) despite efforts by Glover and "old farm boy" Madden, are gun parts present in Shiner's Trench? Two caveats should be noted, however: (1) data relating to the first two questions may reflect the collection and disposal policies of the NPS during the 1960s rather than mirroring the combined disposal behaviors of Frederica's original and later residents; and (2) the 1994 SEAC excavators did not use screens, possibly contributing to a "large fragment" bias compared to the Glynn County collections, which were screened with ¼" mesh.

Methods

Once the entire artifact assemblage was delivered to UTC, it immediately became obvious that a complete inventory was not feasible due to budgetary and time constraints. Suspecting that this might be the case when negotiating the contractual agreement, SEAC and UTC included a provision that stated that 100% of ceramic artifacts would be processed and a sample of other classes of artifacts would be inventoried if a total analysis was not possible. The largest quantity of unanticipated artifacts were those generated by the 1994 SEAC testing program: 15 boxes chock full of unwashed and unsorted artifacts were delivered in addition to the 40 boxes of artifacts excavated by the Glynn County educational program. The latter artifacts were ordinarily already cleaned and rough-sorted, unlike the unprocessed SEAC artifacts. Another source of uncleaned and unsorted artifacts were from "extra" excavations by Armstrong Atlantic and other small miscellaneous "digs" that apparently included no laboratory component. Two boxes of material are attributed to these sources, (for analytical purposes they are included in the Glynn County tallies). Washing, drying, and finally classifying these artifacts consumed approximately twice as many person-hours compared to simply classifying and

quantifying the already-processed Glynn County material (hereafter, "GC"). Finally, Glynn County Schools Archaeology Coordinator Ellen Provenzano reports that Armstrong Atlantic students washed and undetermined number of artifacts from the SEAC collection that was not documented. Presumably these are included in the GC assemblage.

A valuable silver lining to the SEAC survey assemblage cloud is seen in the fact that these artifacts constitute a sample that has *not* been continuously excavated, cleaned, handled, and reburied, as noted above. This "pristine" sample is useful for comparison with the GC artifacts, and also can be used by future researchers to check the UTC artifact classifications since it will be stored at SEAC and is not scheduled for reburial at Fort Frederica.

Ceramic identifications were made following the reference works of Miller and Stone (1970), Price (1979), Bartovics (1981), and of course Noel Hume (1974). Comparative collections housed at the Institute were also used. At the request of SEAC, aboriginal ceramics were removed from the trench collections, quantified separately, and sent to Tallahassee for curation. Artifacts with identification numbers on them were treated in the same fashion. A cursory inspection of the numbered artifacts indicates that more than one numbering system was used. The ceramic counts and weights in Tables 1 and 2 include these "special" items; Appendix B is an inventory of all materials sent to SEAC that were derived from the Glynn County collection. Nonceramic artifacts were classified and quantified only for the first two boxes of SEAC material; thereafter, brass and lead artifacts were enumerated, while iron and glass artifacts were simply weighed *en mass* from both collections. It is thus possible to extrapolate a rough estimate of the iron and glass frequencies from their weights. All bone and flint artifacts were counted and weighed, as were pipe stems and bowls, and the stem bore diameters were also recorded. Separate data files were created for ceramic and nonceramic categories for both the GC and SEAC collections.

Ceramic Classification Formats. Ceramic artifacts were classified according to the customary earthenware-stoneware-porcelain tripartite division. Earthenwares were further broken down into coarse and refined categories, with the former including unglazed, lead-glazed and slip-decorated utilitarian types; slip-decorated earthenwares could also have conceivably been included in the refined category, and ours is an arbitrary distinction, as all classifications inevitably are. Tin-enameled delft was defined as a refined earthenware, reflecting its presumed primary function as a porcelain look-alike serving ware. Unglazed delft was also noted as a distinct category, in order to estimate the degree of wear-and-tear that successive reburial has had since 1994 on this poorly glazed ware. A rough dating variable was also recorded for each ceramic type: "colonial," defined as any type produced before the introduction of creamware (1762); "postcolonial," designated for creamware and later sherds that date primarily to the late 18th and early 19th centuries; and "modern," a label given to late 19th century and 20th century wares. In all likelihood, an unknown number of the whiteware/ironstone sherds should have been included in this last temporal category, but we could discover no consistent, replicable way to do so.

Probably the most difficult ceramic classification task was to identify differences in the creamware-pearlware-whiteware/ironstone series. This nettlesome problem was made even more problematic in the collections by the presence of a small quantity of yelloware in subtly differing shades. At any rate, our approach was to note glaze pools with yellowish, bluish, and clear tints, respectively, on footrings and handles, and then use the body sections of these pieces as glaze tint guides for sherds lacking the tell-tale pooling. The inherent subjectivity of this procedure was reduced to some extent by cross checking the "tint decisions" among the lab personnel, and by a final check by the PI.

Another ambiguous classification problem involved the difference between "colonial" and "postcolonial" gray and brown salt-glazed stonewares. This again was a subjective distinction, except for the presence of interior Albany slips, which were not used in the colonial period and therefore were automatically designated as postcolonial types. Alkaline-glazed stonewares and ginger beer bottle fragments were also assumed to be postcolonial types. At any rate, a number of plain brown and gray salt-glazed sherds could have easily been categorized as postcolonial, and the frequencies for these wares are probably exaggerated when assumed to all be colonial. "Crouch salt-glazed stoneware," however, is defined as a distinctive gray bodied stoneware with a thick gray-green salt glaze. It has a colonial association, and the significance of the presence of this ceramic type at Frederica is discussed in the Results section.

Due to burning and/or erosion, some ceramics could not be identified as to type and therefore period (i.e., colonial, postcolonial, or modern). There are corresponding unidentified (UID) earthenware, stoneware, and porcelain categories to account for these, as well as a general "UID ceramics" designation. Only a small proportion of the ceramic assemblage was included in these categories.

Nonceramic Classification Formats. As noted above, the first two boxes of the SEAC metal and glass artifacts were classified according to specific types and counted and weighed, but the time-consuming nature of this procedure made it impossible to sustain for subsequent boxes. Although the glass (Table 3) and iron artifacts were simply weighed without counting or sorting in all the remaining boxes from both collections, gun parts (of brass and iron), brass artifacts, pewter and lead objects, and buttons of brass and iron were quantified by type frequency and weight. A listing of the types defined for these materials appears in Tables 4 and 5. Bone and teeth were counted and weighed as one category, and gunflints were also identified as a discrete artifact category in both the SEAC and GC collections. A major drawback to this study was the need to return the GC artifacts to Frederica for reburial prior to construction of final artifact tallies, and it was only after the artifacts had been returned that some small bone and flint frequencies and weights (excluding gunflints and strike-a-lights) were found to have been "lost" during the data recording. Hence, the quantities reported for these two categories should be considered as *minimums* and not absolute frequencies and weights. Another source of variability in our analysis was the presence of various classes of artifacts in the Archaeology Laboratory at Oglethorpe Point Elementary School that UTC never received for analysis. Glynn County Archaeology Coordinator Ellen Provenzano has kindly provided an inventory of this material, which is included as Appendix C. Since the UTC researchers did not participate in the classification of this material, it is not included in the results discussed below.

Ceramic Artifacts

Ceramic Comparisons. A total of 22569 ceramic artifacts were included in the Trench collection, with 18253 from the Glynn County assemblage and 4345 derived from SEAC's survey collection. Prehistoric artifacts accounted for 575 (2.5%) of this total, and the average grams-per-prehistoric-sherd weight was 6.59 versus 7.48, respectively. The lower weight for the GC sherds, even in a "durable" ceramic category, was commonly noted throughout the entire range of ceramic types; in fact, of the 48 refined earthenware types found in both collections, only 18 (38%) of the GC types had higher average weights per sherd than the identical SEAC types. This consistent tendency toward smaller sherd sizes can probably be attributed to more frequent post-colonial breakage as a result of more frequent reburial and excavation cycles. For

instance, the more delicate plain white salt-glazed stoneware sherds produced an average of 2.92 g and 4.56 g, respectively, while even underglaze blue porcelain, which is generally thicker and certainly harder than white salt-glazed stoneware, was calculated at 2.31g and 2.55g. On the other hand, 7 of the 12 coarse ceramic wares had higher sherd weights in the GC sample. Although the trend toward generally lower GC weights (and hence sherd size) may reflect original colonial ceramic use and discard behavior, the consistently larger sherd weights for the SEAC ceramics, derived as they were from the same context as the GC artifacts, strongly suggest that the differences are in fact produced by the junior archaeologists of the Glynn County School system. It should be noted that the student archaeologists are extremely careful in their recovery and artifact processing procedures, and that this "wear and tear" is to be expected from the excavation/analysis/reburial process, no matter how carefully done. It also suggests that the refined earthenwares in general are the most likely candidates for increased fragmentation.

Besides accelerated fragmentation, a more serious impact has occurred to delftware. Unglazed delftware constitutes 20.4% of the total GC delftware category but 14.6% for the SEAC sample. The irregular adherence of tin enamel to the delftware body makes this ceramic type notoriously subject to spalling, which apparently is exacerbated by frequent handling. Eventually it is possible to envision that the GC assemblage will consist almost entirely of unglazed delftware fragments and an occasional loose flake of tin enamel.

Temporal Dimensions. To estimate how much of the Trench assemblage was associated with the colonial versus postcolonial occupations, the two ceramic assemblages were divided into the three gross temporal categories explained above: colonial, postcolonial, and modern. The latter category includes sewer pipe, tile, flowerpot, and "late" porcelain. Since temporal information was lacking, unidentified wares, including miscellaneous stoneware and porcelain types, burned ceramics, and unglazed earthenwares were also excluded. Falling under the modern and unidentified designations were 605 GC and 193 SEAC sherds; when excluding the prehistoric sherd frequencies (367/208), this accounts for 3.2% and 4.4% of the collections, respectively. Thus, the adjusted totals were calculated as follows:

	colonial ceramics (*f* / %)	postcolonial ceramics (*f* / %)
Glynn County	9710 / 56.2	7571 / 43.8
SEAC	2243 / 57.0	1691 / 43.0

These nearly identical percentages are a strong indication of the representativeness of the SEAC sample. So too is the fact that similar colonial and postcolonial types were present in both contexts, that is 66 of 85 possible types. Finally, the nearly identical mean ceramic dates estimated from the two samples, as discussed below, provide additional confirmation concerning the comparability of the GC and SEAC assemblages.

But both artifact "population" (GC) and "sample" (SEAC) serve to illustrate the importance of the postcolonial component in the Trench, and almost certainly at Frederica as well. Even if the built-in colonial bias of Shiner et al. is taken into account--that "late" ceramics would tend to automatically be disposed of because they were associated with the "wrong" temporal period--the fact remains that over 9000 postcolonial sherds *could* be deposited in the Trench by National Park Service archaeologists. This indicates that a substantial occupation at Frederica--one that existed in the late 18th and early 19th centuries--has been ignored or neglected by historians and archaeologists alike, the author included. Underscoring this

observation are the mean ceramic date estimates (South 1977; midpoint manufacturing dates are taken from Honerkamp et al. 1983:122-125) of 1799.1 and 1799.9 derived from 11608 sherds and 40 types in the GC collection and 2608 sherds and 39 types from the SEAC sample, respectively. Thus, the *only* evidence currently available for an undetermined number of unidentified residents at Frederica consists of the information presented in Tables 1 and 2. It is hoped that this tangible proof of their occupations within the confines of the National Monument will serve as a stimulus for future research, especially documentary research, and new interpretations that will illuminate an important element of Frederica's missing history.

Refined Versus Utilitarian Ceramics. Within the colonial/postcolonial continuum, refined earthenwares were expected to increase as a percentage of the total ceramics, as these wares became more common and affordable over time. This was demonstrated in both the GC and SEAC collections (for purposes of clarity, they will be combined for this discussion). Utilitarian wares, as defined in this study, comprise 34% of the nominal colonial types, but only 6% of the postcolonial nominal types, so they would be expected to be far fewer in number in the latter temporal period. But the 43.2% (f=5169) versus 1.0% (f=96) for utilitarian sherd frequencies in the colonial versus postcolonial categories, respectively, indicates a much heavier reliance on the refined wares in the later period than expected, even taking into account our definitional procedures. Given the nature of the Shiner's Trench sample, fine-scale analyses of refined versus utilitarian ceramics are not feasible, but these large-scale differences suggest considerable variance in food preparation, storage, and serving practices and behavior through time. Thus, the colonial percentages could possibly serve as a generalized comparative sample for contrasting individual colonial site ceramic profiles. The same could be said of the postcolonial assemblage, should future research into this period ever occur at Frederica.

As mentioned earlier, "Crouchware" (f=26) was a colonial period utilitarian stoneware that has been the subject of considerable speculation as to its origin. It was first incorrectly identified by Honerkamp (1976) as alkaline-glazed stoneware, which it superficially resembles. It seems to be an uncommon ceramic type at colonial Frederica, but Honerkamp found significant quantities of it at the Hird Site (1980:90), attributing its presence to the possibility that Hird ran a tavern in his home and that it was a specialized "tavern ware." Honerkamp also suggested that Hird's ceramic source was Andrew Duchee, who produced utilitarian stonewares and earthenwares in both Savannah and Charleston; Hird had extensive business dealings in both towns. Based on its physical characteristics and the localized presence of this "non-imported" type at Frederica, Bradford Rauschenberg has strongly affirmed Honerkamp's suggestion (1991:32-39). The simple presence of this ceramic type, even without contextual information, provides one example of the potential research value of information derived from the Shiner's Trench assemblage.

Tobacco Pipes. The stem hole diameters of all pipe stem fragments in both collections were measured to the nearest 64th of an inch, and the frequencies recorded, in order to apply the Binford pipe stem dating formula (1962) to estimate mean pipestem dates. With the exception of a single 8/64" example, all the stem holes were between 4/64" and 6/64" (see Tables 1 and 2). From 3645 measurable fragments in the GC collection, a date of 1753.3 was derived; the 376 SEAC stems produced a date of 1758.9. Since the Binford formula breaks down during the last quarter of the 18th century--unlike the Mean Ceramic Date Formula--an earlier pipe date was expected. It may also be the case that smoking using white clay pipes simply ceased at Frederica after the 1750s. But these pipestem dates echo the mean ceramic date in the sense that they indicate a later occupation range than the 1750 cutoff traditionally associated with Frederica's "heyday."

Nonceramic Artifacts

Due to the large quantities of glass and metal artifacts and the finite resources devoted to their analyses, most of the artifacts in these classes were quantified by weight only, with the exception of the two SEAC boxes mentioned above.

Glass Artifacts. Unsorted glass from the GC collection totaled 265,906 grams, while 72,919 grams were calculated from 13 boxes of SEAC artifacts and 12,072 grams from 1577 fragments derived from the two SEAC boxes of sorted glass. This represents the largest artifact category from the trench, for a total of 350.9 kilograms (772 pounds). If the average weight-per-fragment of 7.65 grams is applied to the 338,825 grams of unsorted glass, the extrapolated glass frequency is 44,291.

As seen in Table 3, patinated olive green wine bottle glass was by far the most common type found, by frequency and weight. Glass is of course much less temporally-sensitive than ceramics, but we believe that the vast majority of this type is associated with colonial Frederica, as are the "case" bottle fragments (flat-sectioned patinated olive-green glass). Some of the unpatinated dark green bottle fragments may also be colonial in origin, but the exact number cannot be determined. This same indeterminacy applies to the other types, but in general, most of the highly patinated glass fragments, the goblet and tumbler fragments, and much of the patinated window glass (with unpatinated examples relegated to the "Modern" category) are most likely colonial-period examples. However, without contextual information such statements remain only speculative. So too are breakage rate estimates between the GC and SEAC samples, since the former were never counted. However, it is not unreasonable to assume that glass, particularly fragile vial fragments if not heavy wine bottle bases, would be especially prone to fragmentation resulting from repeated excavation and reburial sequences.

Metal Artifacts. Artifacts of lead, brass and copper from both samples are enumerated in Table 4. All the gun parts except for two iron mainsprings were composed of brass. Fragments of lead and pewter were not common (all were found in the GC assemblage), with the most numerous type being miscellaneous scraps of (presumably) "waste" lead. A total of 12 lead artifacts are associated with arms, and consist of a modern .22 slug, musket balls and sprue fragments. A piece of splash lead may also be associated with musketball production. Contrary to the confident assertion to T. M. Hamilton that W.H. Glover made--that he and Robert Madden had located and removed "the only items recovered from the trench that could possibly be gun parts"--27 were identified in the present analysis, with two iron mainsprings associated with the SEAC sample. Ramrod thimbles were the most numerous gun-related parts, followed by trigger guards and escutcheon plates. Other parts include butt plates, trigger plates, trigger guard front finials, side plates, a screw for a flint vise, and a ramrod tip. In retrospect, the presence of so many gun parts in the Trench is not surprising, since neither Glover nor Madden nor the maintenance staff who excavated the trench had archaeological training. Several brass scabbard tips were also noted and may be material correlates of the military presence in the colonial town, although civilians may have had swords too.

"Miscellaneous" brass items also consisted primarily of cut fragments that appear to be the byproducts of craft activities (some of these may be composed of copper rather than brass). Since similar fragments were also recovered from the Hird and Forester sites by Honerkamp (1975, 1980), they are presumably associated with colonial Frederica. Thirty buttons and button fragments of various types were found in the GC collection and were not included for reburial. Besides their fragile nature, such artifacts are temporally sensitive and were therefore pulled from the artifacts to be returned to Fort Frederica. This is also true to a lesser extent for the 18

brass buckles and partial buckles that were identified, although these were not excluded for reburial.

By far the most common metal artifacts found were of iron, as measured both by frequency and weight. However, as noted earlier, only two boxes of the SEAC sample were analyzed down to the type level; iron from the thirteen remaining boxes and the entire GC assemblage was simply weighed. A total of 16,890 grams of iron were found in the two SEAC boxes that were analyzed, with 82,274 grams in the remaining SEAC boxes; 187,512 grams were weighed from the GC sample. The total weight of the iron component of Shiner's trench is 282.1 kilograms, or 631 pounds. For the two sorted SEAC boxes, approximately half of the total iron by weight could be typed. Such an estimate is of use for predicting the level of effort necessary for future analysis efforts.

The finer-grained analysis of iron in the two SEAC boxes indicated in Table 5 identified four types of nails: square nails, which were highly oxidized and therefore ambiguous as to being of wrought or machine-cut origin (f=43); wrought nails (f=22), assumed to be associated with the colonial period; and cut nails (f=258) and wire nails (f=13), which according to Fontana (1965) and Nelson (1963) date to the last quarter of the 18th century and after 1850, respectively. Eight hollow shot fragments weighing 4705 grams were also noted, and these certainly are associated with the colonial military presence in the town. However, there were several more fragments that were not individually identified that were included under "Miscellaneous Iron." In retrospect, it would have been desirable to isolate the hollow shot as a separate artifact class since they are all most likely associated with the colonial military presence. No other recognizable iron artifacts could be linked so directly to the colonial period. It is possible to extrapolate nail and other identifiable iron artifact frequencies from the figures calculated for the Table 4 Glynn County sample and the remaining SEAC boxes, although the reliability of such estimates are difficult to determine.

Even though the size of the GC sample was roughly twice that of the SEAC sample for metal artifacts, the GC sample has a much more numerous and diverse compliment of nonferrous metal artifacts (lead, pewter, and brass) compared to the SEAC sample. This may be because the SEAC sample was derived from the original Trench contents that were generated between 1959 and 1966. The 1994 excavations may simply have been dug on a "metal-poor" part of the feature, especially if Madden and Glover were especially concerned with metal artifacts in their search for gun parts. Possibly the metal artifacts, particularly nonferrous artifacts, had highly localized distributions if they were returned to the Trench in one or two boxes that had been collected in order to identify gun parts. Hence, the limited 1994 excavations may simply have missed the metal-heavy areas. The GC collection was more "homogenized" since it had been reburied three times with an eye toward even distribution of all artifact classes.

It should be noted that three iron artifacts from the SEAC sample were removed for conservation: two hollow shot fragments and a partial mainspring. These have been included with other artifacts that are being returned to SEAC. Conservation methods for all three included the following sequence: electrolytic reduction of iron oxide; hand cleaning; drying in an oven for the hollow shot, and immersion in acetone for the small mainspring; a coating of tannic acid; and a final coat of polyurethane. It was originally hoped that a representative sample of metal artifacts could be processed in this manner, but the size of the collection precluded extensive metal conservation efforts.

Flint and Bone. Flint artifacts were separated from other stone fragments and individually noted in both collections, as follows:

Type	SEAC frequency/weight	Glynn County frequency/weight
Core/debitage	114 / 3860	374 / 8849
Gunflints	2 / 20	29 / 273
Strike-a-lights	0 / 0	9 / 377
Projectile points	3 / 17	0 / 0

Strike-a-lights were defined on the basis of a distinctive pattern of heavy use wear appearing along several if not all of the edges of large flint fragments. Unfortunately, we did not take measurements of the gunflints or note their colors, which could easily have been done when the gunflints were first recognized. Such measurements are useful for researchers interested in the range of variations between and among spall versus blade flints. Another omission was to ignore the color categories for the debitage fragments, which might have provided an idea of the degree to which honey colored gunflints were reworked or even manufactured at Frederica.

Due to a supervisory lapse that is the ultimate responsibility of the Principal Investigator for this project, three of the GC boxes contained bone that was incompletely inventoried: 20 fragments were counted but not weighed, and 442 grams were weighed but not counted. Unfortunately, these errors were discovered during the report preparation phase of the project, and the boxes had already been returned to Frederica for reburial. Hence, the following totals exclude these errant boxes and should be considered as minimum figures, not as absolute frequencies and weights:

Glynn County:	$f = 728$	weight in grams = 1231
SEAC:	$f = 528$	weight in grams = 1271

The average weight per fragment for the GC bone is 1.69 grams, while the SEAC bone average weights in at a (relatively) whopping 2.41 grams. This difference certainly suggests that bone is especially prone to increased breakage from excavation, handling, and reburial. Bone is not temporally significant, and is almost totally dependent on contextual information for any kind of meaningful analysis.

Conclusions

Summary. Given the limited resources applied to the UTC analysis of the Shiner's Trench artifacts, the results of the analysis can only be considered as preliminary. However, in producing this artifact inventory, it was still possible to formulate and answer several research questions that were not contingent on the loss of contextual information that all these artifacts share. To recapitulate, it has been possible to address the following questions:

(1) How much of the artifact assemblage can be associated with the colonial occupation versus the postcolonial presence at Frederica? Using temporally-sensitive ceramic artifacts, approximately 43%-44% of the dateable sherds are associated with the postcolonial occupation at Frederica. In addition, the mean ceramic date for the full ceramic assemblage is more than half a century after the town's colonial zenith. Implied by both the calculated mean

ceramic date of 1800 and the presence of this large "late" ceramic fraction (which is composed of over 9000 sherds) is that a significant part of Frederica's history is unaccounted for: little documentary research and next to no archaeology has been devoted to the site's later history, and as a consequence the full story of Frederica's past is ignored in the National Monument's interpretive displays and programs.

(2) What are the frequency relationships between refined versus utilitarian ceramic artifacts? As predicted, utilitarian wares decreased significantly between the colonial and postcolonial periods, as defined in this study. It is suggested that these large-scale differences reflect considerable variance in food preparation, storage, and serving practices/behavior through time, as well as changes in ceramic technology and availability. An advantage of the results derived from the present study is that they can serve as a baseline for comparison for any future artifact analyses. And it has also been demonstrated that, at least for the ceramics, the SEAC sample is highly representative of the entire Trench contents.

Unfortunately, it has not been possible to estimate the degree to which the Trench artifacts have been culled by previous researchers. But since the "late," that is, postcolonial types were not of much interest to Shiner et al., it can be assumed that these ceramics accurately reflect a generalized, noncontextual sample of the town's late 18th century and 19th century material culture.

(3) How does the Glynn County assemblage--excavated and reburied once by NPS personnel and three times by the school program prior to analysis--compare with the SEAC assemblage, which was excavated/reburied once and then excavated only once and not reburied? Some differences in the impact of the successive reburial/excavation sequences are readily apparent:

(a) The average sherd size for most ceramic types is being reduced. Fragile types, such as white salt-glazed stoneware are more likely to be fragmented, while some durable types (e.g., the coarse glazed stonewares) are unaffected.

b) Delftware is gradually becoming unglazed. Based on a comparison of glazed versus unglazed sherds associated with the GC and SEAC samples, approximately 6% of the total delftware assemblage has been adversely affected in this way over the last six years. Although this glaze-attrition rate is not expected to be maintained indefinitely, as the "survival of the fittest sherd" process will eventually affect only those sherds possessing the least-adhering tin enamels, certainly a large percentage of the delftware sherds--probably more than half--will eventually lose all traces of their glazes in the next few years.

(c) Bone, as the most fragile of all artifact categories, is the most severely effected by handling, as reflected by its generally smaller average weight-per-fragment in the Glynn County sample.

(d) Although average glass fragment sizes were not derived for the Glynn County assemblage, it can be assumed that thin, fragile glass types are also undergoing a fragmentation transformation.

e) The repeated excavation, washing, and reburial of iron is accelerating the oxidation process and will eventually reduce a significant part of the iron assemblage to rust fragments so small that they will not be recovered by Glynn County students using screens with 1/4" mesh. This statement was not demonstrated empirically from the present study, but is based on the author's impressionistic observations of the iron artifacts starting with the first reburial. These impressions have been strongly supported by the Glynn County Educational Coordinator.

(4) Finally, Glover and Madden missed some gun parts.

Recommendations. Based on this study, the following specific and general recommendations are offered to SEAC and the staff at Fort Frederica National Monument concerning the Shiner's Trench artifacts. It should be noted that it is virtually impossible to predict what data will be useful in future research in historical archaeology, as new analytical techniques and methods are developed. These recommendations reflect that uncertainty.

1) Due to its research potential, SEAC is strongly urged to maintain the sample included in the 15 boxes that were analyzed from the 1994 testing effort as a separate assemblage, distinct from the Glynn County assemblage, to be excluded from reburial and permanently curated in Tallahassee. These artifacts, particularly the ceramics, are believed to be representative of the original contents of Shiner's Trench and have not been subject to the heat and strife of repeated excavation, analysis, and reburial sequences. Certainly the present artifact quantities in the Glynn County assemblage are sufficient for the needs of the educational program without the addition of the SEAC sample.

2) In order to mitigate the deglazing effect on delft of repeated excavation and reburial, it is suggested that in the future only unglazed delft be returned to the trench for reburial. Glazed fragments can be incorporated into the laboratory analysis portion of the educational program, and the fragile nature of this artifact type (and why it is so fragile) can be discussed at that time. The current Educational Coordinator concurs with this recommendation.

3) All the gunflints should be culled from the Trench assemblage, classified, photographed, and measured before being returned for reburial.

4) Buttons have been culled from the Trench collection during the present analysis. Due to the combination of their temporally diagnostic (and perhaps functional) qualities and their fragile condition, it is suggested that these artifacts be preserved for future study and excluded from reburial. They should also be inspected for evidence of oxidation and conserved as appropriate.

5) Despite the destructive effects of reburial/excavation, no recommendations concerning the iron, fragile glass, and bone are offered. At this time it is difficult to imagine any future research that would be enhanced by conserving these no-context artifacts.

6) It is hoped that the results of this inventory will act as a stimulus for future archaeological and documentary research at Fort Frederica National Monument that will then be incorporated into interpretive programs and displays. A primary strength of archaeology is its ability to achieve a diachronic perspective on the study of human behavior. The presence of substantial quantities of postcolonial artifacts associated with Frederica indicates that this strength is not being fully realized. The archaeological reality of Frederica includes late 18th and 19th century artifacts and sites, and this reality should be included in the town's interpretation. Such an inclusive approach will produce a richer and more accurate description of Frederica's true history. To ignore this significant component does that history and the National Monument's visitors a disservice.

7) While not included in the formal analysis described in this report, the condition of the actual Trench is also of concern. Based on personal observations, the author has noted the ever-

widening dimensions of the Trench walls over each field season. Despite the construction of a shelter over the entire feature, the soft sand that the Trench was dug into, and the very nature of the repeated excavation/reburial process-- no matter how carefully done-- ensures instability in the Trench profiles. It is critically important to stabilize the Shiner's Trench as soon as possible, hopefully prior to the next reburial. A simple and inexpensive way to do this would be to line the walls with plywood. Perhaps a more elaborate method could then be devised for the future, when time and funds permit.

The recommendations listed above have a real-time dimension. The author urges SEAC and the staff of Fort Frederica National Monument to implement them before the next scheduled reburial in August of 2001.

Shiner's Trench: Costs and Benefits

Clarity is most easily achieved in hindsight. The decision to begin using Shiner's Trench as an archaeological resource for primary education in essence subjected the artifact collection to a number of impacts, almost all of which have been adverse. At the time that this decision was made, little real consideration was given to the practical effects that the educational program would have on the artifact collection: the inevitable spalling of delftware tin enamel, the acceleration of iron oxidation, the fragmentation of fragile glass, the attrition to bone fragments. Since the trench artifacts were devoid of contextual data, they were in essence considered to be expendable, although this was never explicitly acknowledged by reviewers and consultants for the program, including the author. In retrospect, such adverse effects were inevitable, and that inevitability has been amply quantified in this report.

But the undeniable drawbacks identified in this report--the slow disintegration of various artifact classes--must be weighed against the undeniable benefits of the NPS/Glynn County education program. Literally thousands of primary school children are receiving training in archaeology, science, and history, and they are directly participating in a search for their own roots. They are also being inoculated against the looting virus that has grown to epidemic proportions on the coast of Georgia and elsewhere since the advent of metal detectors. The future of historic archaeology in this country is directly dependent on the effective education of the generations that will follow. This unique educational program supports that future and should be continued, while at the same time we should recognize and take steps to minimize the negative impacts that it has on the Shiner's Trench artifacts.

Table 1. Glynn County Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	T WEIGHT
EARTHENWARE, COARSE		
Prehistoric	367	2420
Lead-glazed earthenware	1384	14386
Lead-glazed redware	382	5697
Slip-decorated redware	45	569
Slip-decorated earthenware	707	3235
Plain slip-decorated earthenware	495	1812
UID unglazed earthenware	75	958
Tile	12	657
Flowerpot	10	277
Pipkin	1	1
EARTHENWARE, REFINED		
Plain delftware	1117	2877
B on W decorated delftware	1461	4040
Unglazed delftware	689	693
Faience/Majolica	20	151
Coarse agateware	37	223
Refined agateware	34	56
Astbury	127	278
Jackfield-ware	30	142
Wheildonware	3	3
Brown Rockingham-styled yellow-ware	23	356
Annular mocha yellow-ware	24	210
Green-glazed cream colored earthenware	1	10
Staffordshire-Bristol slipdecorated earthenware	4	11
Polychrome or purple delftware	98	170
Sewer pipe	2	?
Enamelled redware	0	0
Yellow-ware	30	131
CREAMWARE - PEARLWARE		
Undecorated creamware	926	4199
Feathered-edge plain creamware	30	142
Underglazed green creamware	0	0
Creamware with leaf applique	1	10
Underglazed polychrome creamware	0	0
Overglaze red-enamelled creamware	0	0
Annular swirled creamware	1	3
Undecorated pearlware	984	3559
Green shell-edged pearlware	190	848
Blue shell-edged pearlware	334	1483

Table 1. Glynn County Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	T WEIGHT
Blue edge-molded pearlware	12	36
Blue hand-painted pearlware	178	583
Polychrome hand-painted pearlware	179	334
Blue transfer-printed pearlware	817	2199
Black transfer-printed pearlware	4	24
Annular pearlware	89	291
Annular swirled pearlware	9	97
Sponged pearlware	13	49
Brown transfer-printed pearlware	3	6
Annular dendritic mocha pearlware	8	17
WHITEWARE		
Plain whiteware	2681	12371
Blue transfer-printed whiteware	677	1871
Tinted-glaze whiteware	0	0
Annular whiteware	105	388
Blue edge-molded whiteware	3	12
Green edge-molded whiteware	2	7
Edge-molded plain whiteware	2	5
Polychrome hand-painted whiteware	85	216
Flowing mulberry transfer-printed whiteware	1	2
Green transfer-printed whiteware	2	12
Black transfer-printed whiteware	19	47
Brown transfer-printed whiteware	5	12
Blue hand-painted whiteware	6	32
Flowing blue transfer-printed whiteware	13	30
Sponged whiteware	0	0
Purple edge-molded whiteware	0	0
Slip decorated whiteware	12	20
Gilded whiteware	6	52
Hand-painted transfer-printed whiteware	1	3
Yellow transfer-printed whiteware	1	1
Stamp decorated whiteware	2	11
Bat-molded hand-painted polychrome whiteware	1	1
STONEWARES AND PORCELAINS		
Gray salt-glazed stoneware	444	6415
Gray salt-glazed stoneware with Albany slip	44	1360
Westerwald/Rhenish stoneware	195	1196
Alkaline-glazed stoneware	11	304
Crouch salt-glazed stoneware	18	389
Brown salt-glazed stoneware	421	6814

Table 1. Glynn County Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	T WEIGHT
Elers-ware	1	1
Black basaltware	4	11
Nottingham lustered stoneware	49	172
White salt-glazed stoneware	883	2587
Slip-dipped white salt-glazed stoneware	76	207
Bat-molded white salt-glazed stoneware	38	14
Scratch blue white salt-glazed stoneware	37	39
Hand-painted polychrome wh. salt-glazed stone.	0	0
Ginger beer bottle	22	408
UID stoneware	1	15
Plain porcelain	106	250
Underglaze blue porcelain	710	1644
Overglaze/polychrome porcelain	98	231
Underglaze blue transfer-printed porcelain	4	19
Parian (Unglazed) porcelain	7	58
Modern porcelain	197	778
Burned/eroded/UID ceramics	287	1465
Misc. modern ceramics	22	136
UID porcelain	3	185
PIPES		
4/64" pipe stem	1265	
5/64" pipe stem	2326	
6/64" pipe stem	54	
7/64" pipe stem	0	
8/64" pipe stem	0	
9/64" pipe stem	0	
split pipe stem		
pipe bowl		
decorated bowl		
wig curler		

Table 2. SEAC Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	T WEIGHT
EARTHENWARE, COARSE		
Prehistoric	208	1556
Lead-glazed earthenware	370	3062
Lead-glazed redware	118	1228
Slip-decorated redware	14	115
Slip-decorated earthenware	207	874
Plain slip-decorated earthenware	110	766
UID unglazed earthenware	33	494
Tile	20	3302
Flowerpot	3	66
Pipkin	0	0
EARTHENWARE, REFINED		
Plain delftware	247	709
B on W decorated delftware	340	996
Unglazed delftware	102	125
Faience/Majolica	9	25
Coarse agateware	5	19
Refined agateware	9	14
Astbury	13	25
Jackfield-ware	5	23
Wheildonware	1	1
Brown Rockingham-styled yellow-ware	9	51
Annular mocha yellow-ware	4	29
Green-glazed cream colored earthenware	3	6
Staffordshire-Bristol slipdecorated earthenware	0	0
Polychrome or purple delftware	9	11
Sewer pipe	2	261
Enamelled redware	2	4
Yellow-ware	24	189
CREAMWARE - PEARLWARE		
Undecorated creamware	163	1065
Feathered-edge plain creamware	7	38
Underglazed green creamware	1	1
Creamware with leaf applique	1	2
Underglazed polychrome creamware	1	5
Overglaze red-enamelled creamware	1	1
Annular swirled creamware	0	0
Undecorated pearlware	181	1136
Green shell-edged pearlware	30	161
Blue shell-edged pearlware	97	529

Table 2. SEAC Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	TWEIGHT
Blue edge-molded pearlware	4	12
Blue hand-painted pearlware	47	217
Polychrome hand-painted pearlware	42	104
Blue transfer-printed pearlware	200	797
Black transfer-printed pearlware	0	0
Annular pearlware	11	50
Annular swirled pearlware	5	49
Sponged pearlware	3	9
Brown transfer-printed pearlware	0	0
Annular dendritic mocha pearlware	0	0
WHITEWARE		
Plain whiteware	608	2626
Blue transfer-printed whiteware	163	650
Tinted-glaze whiteware	2	20
Annular whiteware	28	108
Blue edge-molded whiteware	0	0
Green edge-molded whiteware	0	0
Edge-molded plain whiteware	3	14
Polychrome hand-painted whiteware	13	39
Flowing mulberry transfer-printed whiteware	4	18
Green transfer-printed whiteware	0	0
Black transfer-printed whiteware	2	14
Brown transfer-printed whiteware	4	7
Blue hand-painted whiteware	3	7
Flowing blue transfer-printed whiteware	5	40
Sponged whiteware	1	4
Purple edge-molded whiteware	1	14
Slip decorated whiteware	2	4
Gilded whiteware	0	0
Hand-painted transfer-printed whiteware	0	0
Yellow transfer-printed whiteware	0	0
Stamp decorated whiteware	0	0
Bat-molded hand-painted polychrome whiteware	0	0
STONEWARES AND PORCELAINS		
Gray salt-glazed stoneware	126	2363
Gray salt-glazed stoneware with Albany slip	9	130
Westerwald/Rhenish stoneware	28	157
Alkaline-glazed stoneware	0	0
Crouch salt-glazed stoneware	8	169
Brown salt-glazed stoneware	94	1476

Table 2. SEAC Ceramics Summary
Shiner's Trench - Fort Frederica National Monument

CERAMIC TYPE	T FREQ	T WEIGHT
Elers-ware	1	4
Black basaltware	2	16
Nottingham lustered stoneware	13	39
White salt-glazed stoneware	201	917
Slip-dipped white salt-glazed stoneware	2	5
Bat-molded white salt-glazed stoneware	15	41
Scratch blue white salt-glazed stoneware	2	3
Hand-painted polychrome wh. salt-glazed stone.	1	4
Ginger beer bottle	10	241
UID stoneware	1	52
Plain porcelain	42	79
Underglaze blue porcelain	129	330
Overglaze/polychrome porcelain	18	27
Underglaze blue transfer-printed porcelain	0	0
Parian (Unglazed) porcelain	0	0
Modern porcelain	33	184
Burned/eroded/UID ceramics	101	375
Misc. modern ceramics	10	278
UID porcelain	0	0
PIPES		
4/64" pipe stem	185	521
5/64" pipe stem	189	495
6/64" pipe stem	1	3
7/64" pipe stem	0	0
8/64" pipe stem	1	1
9/64" pipe stem	0	0
split pipe stem	15	16
pipe bowl	27	29
decorated bowl	1	1
wig curler	1	6

Table 3. Glynn County and SEAC Glass Summary
Shiner's Trench - Fort Frederica National Monument

SEAC T FREQ	SEAC T WEIGHT (g)	TYPE	GLYNN T FREQ	GLYNN T WEIGHT (g)
	72,919	Total unsorted glass		265,906
1067	10087	Olive green wine - pat., rd. sect.		
55	81	Olive green case - pat., flat sect.		
138	640	Dk. green wine - unpatinated		
7	35	Goblet		
4	82	Tumbler		
13	21	Light green vial		
13	33	Green patinated round sectioned		
30	71	Lt. green patinated rd. sectioned		
5	56	Lt. green patinated flat sectioned		
1	1	Brown round sectioned		
27	63	Clear patinated round sectioned		
14	30	Clear patinated flat sectioned		
4	62	Purple tinted		
126	139	Window glass patinated		
51	275	Burned/UID		
22	396	Modern, various		

Table 4. Glynn County Metal Summary
Shiner's Trench - Fort Frederica National Monument

MATERIAL	TYPE	T FREQ	T WEIGHT (g)
Lead	Misc.	27	1,023
Lead	Bullet	1	23
Lead	Pencil	4	60
Lead	Sinker	1	71
Lead	Shot	7	121
Lead	Sprue	4	16
Lead	Splash lead	1	6
Pewter	Lump	2	16
Pewter	Spoon handle	2	33
Brass	Misc.	191	1029
Brass	Scabbard tip	6	44
Brass	Screw hook	1	6
Brass	Buckle	18	111
Brass	Clothing (non-button)	2	1
Brass	Button	30	70
Brass	Furniture tack	1	2
Brass	Spoon fragment	1	5
Brass	Cane tip	4	31
Brass	Wire	8	13
Brass	Modern misc.	1	1
Brass	Ring	2	6
Brass	Hinge	2	19
Brass	Handle	1	14
Brass	Thimble	1	1
Brass	Screw	0	0
Brass	Rivit	0	0
Copper	Penny - 1918	1	3
Iron	Unsorted		187512
Gun Parts	Butt plate	2	40
Gun Parts	Ramrod thimbles	7	67
Gun Parts	Escutcheon plates	3	33
Gun Parts	Trigger guard	5	53
Gun Parts	Trigger plate	2	34
Gun Parts	Side plate	2	19
Gun Parts	Trigger guard front finials	2	13
Gun Parts	Flint hammer screw	1	4
Gun Parts	Ramrod tips	1	2
Gun Parts	Main springs	0	0

Table 5. SEAC Metal Summary
Shiner's Trench - Fort Frederica National Monument

MATERIAL	TYPE	T FREQ	T WEIGHT (g)
Lead	Misc.	0	0
Lead	Bullet	0	0
Lead	Pencil	0	0
Lead	Sinker	0	0
Lead	Musketball	0	0
Lead	Shot	0	0
Lead	Sprue	0	0
Lead	Splash lead	0	0
Pewter	Lump	0	0
Pewter	Spoon handle	0	0
Brass	Misc.	7	30
Brass	Scabbard tip	0	0
Brass	Screw hook	0	0
Brass	Buckle	0	0
Brass	Clothing (non-button)	0	0
Brass	Button	0	0
Brass	Furniture tack	0	0
Brass	Spoon fragment	0	0
Brass	Cane tip	0	0
Brass	Wire	0	0
Brass	Modern misc.	0	0
Brass	Ring	0	0
Brass	Hinge	0	0
Brass	Handle	0	0
Brass	Thimble	0	0
Brass	Screw	1	3
Brass	Rivit	1	2
Copper	Penny - 1918	1	2
Iron	UID		99164
Iron	Nail - square	43	102
Iron	Nail - wrought	22	124
Iron	Nail - cut	258	1099
Iron	Nail - wire	13	51
Iron	Spike	19	819
Iron	Threaded bolt/screw	4	94
Iron	Strap iron	41	1073
Iron	Pot fragment	5	823

Table 5. SEAC Metal Summary
Shiner's Trench - Fort Frederica National Monument

MATERIAL	TYPE	T FREQ	T WEIGHT (g)
Iron	Hollow shot	8	4705
Iron	Bar iron	4	778
Iron	Strap hinge	4	472
Iron	Handle	1	142
Iron	knife blade	1	31
Gun Parts, Brass	Butt plate	0	0
Gun Parts, Brass	Ramrod thimbles	0	0
Gun Parts, Brass	Escutcheon plates	0	0
Gun Parts, Brass	Trigger guard	0	0
Gun Parts, Brass	Trigger plate	0	0
Gun Parts, Brass	Side plate	0	0
Gun Parts, Brass	Trigger guard front finials	0	0
Gun Parts, Brass	Flint hammer screw	0	0
Gun Parts, Brass	Ramrod tips	0	0
Gun Parts, Iron	Main springs	2	15

Appendix A
Artifact Inventory of Simulated Brick Privy
Shiner's Trench, FFFNM

Type	Quantity
Iron:	
Hoe	2
Drawer handle	1
Pot fragments	4
Nails	16
Spike	1
Organic:	
Clam shell	1
Oyster shell	1
Bone	21
Miscellaneous:	
Slate fragment	1
Glass:	
Window	2
Clear lead	7
Light green	1
Wine bottle	16
Ceramics:	
Grey salt glazed stoneware	3*
Blue on gray salt glazed stoneware	1
Plain pearlware	2*
Polychrome handpainted pearlware	14
Blue on white handpainted pearlware	23*
Red transfer printed pearlware	1
Sepia transfer printed pearlware	1
Flowing blue transfer printed pearlware	1
Blue edged pearlware	11*
Green edged pearlware	7*
Banded pearlware	12
Dendritic banded pearlware	1
Sepia transfer printed whiteware	3
Ceramics (cont.)	
Sepia transfer printed ironstone	2
Plain porcelain	2
Blue on white porcelain	1
Polychrome porcelain	3

Total = 153 artifacts

* indicates 1 object outside feature in pit
** indicates 2 objects in outer pit

Appendix A
Artifact Inventory of Simulated Brick Well
Shiner's Trench, FFFNM

Type	Quantity
Metal:	
Iron kettle leg	1
Wrought iron nails	4
Wrought iron spike	1
Brass buckle	1
Organic:	
Oyster shell	15
Bone	6
Gun parts:	
Grape shot	1
Gun flint	1
Miscellaneous:	
Flint fragments	5
Pipe stem fragments	15
Pipe bowl fragments	6
Wig curlers	2
Glass:	
Window	2
Clear lead	6
Wine bottle	18*
Case bottle	3
Ceramics:	
Grey salt glazed stoneware	3
Brown salt glazed stoneware	11*
Rhenish salt glazed stoneware	11*
White salt glazed stoneware	15*
Blue on white porcelain	8
Overglaze polychrome porcelain	3
Slipware	13

Type	Quantity
Ceramics (cont.)	
Lead glazed earthenware	25*
Blue on white delft	10
Plain delft	2
Polychrome delft	3
Purple sponged delft	1
Astbury	2
Nottingham	1
Creamware (TPQ for well fill)	1

Total = 196 artifacts

* indicates 1 object outside feature in pit

Appendix B
Artifacts Culled From Shiner's Trench, FFNM

ARTIFACT TYPE	T FREQ	T WEIGHT
Ceramics		
prehistoric	13	107
Lead-glazed earthenware	3	7
Lead-glazed redware	5	75
Slip-decorated earthenware	7	195
UID unglazed earthenware	1	7
B on W decorated delftware	5	8
Unglazed delftware	1	1
Astbury	1	1
Annular/Mocha yellowware	1	6
Undecorated creamware	1	1
Undecorated pearlware	1	5
Blue transfer-printed whiteware	1	1
Alkaline-glazed stoneware	1	12
Brown salt-glazed stoneware	3	42
Nottingham lustered stoneware	2	2
White salt-glazed stoneware	1	9
Slip-dipped white salt-glazed stoneware	1	10
Burned/eroded/UID ceramics	1	1
Pipes		
5/64" pipe stem	1	1
pipe bowl	4	16
Bone/Teeth	22	162
Flint Debitage/Cores	2	17
Brass artifacts		
scabbord	1	11
cane tip	1	4
button	1	9
thimble	1	1
Lead Shot	7	122
Glass		
Dark Green Wine Bottle	1	2
Goblet	1	4
Lt. Green, patinated, round sect.	2	3
Clear, patinated, flat sect.	2	2

Appendix C
Inventory of Fort Oglethorpe Elementary School Artifacts, Taken from Shiner's Trench, FFNM

Material	Weight in grams
CERAMIC	-13,172
GLASS	22,109
METAL	13,724 16,794 (hollow shot/cannonball fragments)
PIPE STEMS	797
BONE	876
COAL	22
CHARCOAL	8
SHELL	46
COAL CLINKER	1,503
FLINT	3,279 42 (gun flints)
SHINGLE	18
BRICK	1,280